

# **National Survey of Non-Fatal Overdoses among Opiate Users in Wales**

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December 2013

# Executive Summary

## Introduction

The non-fatal overdose survey arose out of the evaluation of the Take Home Naloxone Demonstration Project (Bennett & Holloway, 2011). The evaluation raised broader questions about the nature of opiate overdose, including: how many opiate users experience non-fatal overdose each year, what are the causes of non-fatal overdose, and how can non-fatal overdose be prevented. As a result, the Welsh Government commissioned a survey of opiate overdose comprising two parts: a *quantitative questionnaire survey* of injecting opiate users to find out the prevalence of non-fatal overdose, and a *qualitative interview survey* of a subset of the respondents to find out the nature and circumstances of overdose events.

The aims of the *quantitative questionnaire survey* of opiate users were to determine:

- (1) the prevalence of non-fatal overdose (one or more per year) among opiate users across Wales,
- (2) the incidence of non-fatal overdose (the number of repeat overdoses)
- (3) the most common identifiers used to determine that a person had overdosed
- (4) the most common actions taken in response to an overdose

The aims of the *qualitative interview survey* of opiates users were:

- (1) to obtain more detail on the characteristics of specific overdose events
- (2) to explore the perceived causes of overdose
- (3) to understand the extent to which users were concerned about overdosing
- (4) to examine users' attitudes to risk taking and risk reduction
- (5) to find out what affect overdosing had on future behaviour
- (6) to elicit users' views on the most effective forms of prevention

## Key findings

The key findings from the *quantitative questionnaire survey* are that almost half (47%) of all opiate users said that they had overdosed at least once in their lives and 15 per cent said that they had done so in the last 12 months. There was little difference in the prevalence of non-fatal overdose among male and female respondents. There was also no difference in the likelihood of non-fatal overdose among younger and older users. There were wide variations in the prevalence of overdose across locations ranging from zero (Kaleidoscope) to 75 per cent of respondents (the Huggard Centre). On average, respondents who reported overdosing in the last 12 months stated that they had overdosed twice in that time. Naloxone was administered by one or more persons in 38 per cent of all cases of a non-fatal overdose.

These findings are unique in that there is no equivalent information available. The existing data (e.g. on drug-related deaths, hospital admissions, and patient episodes) tell us only about those users who have come to the attention of the recording agencies. The current project has sought to identify the dark figure of non-fatal overdose that might not otherwise have been officially discovered.

One of the key findings from the *qualitative interview survey* was that there was no clear consensus among opiate users about what constituted an overdose. Some interviewees said that they had not overdosed, but nevertheless had fallen unconscious or had lost time. It was agreed by many that there is a fine line between 'gouching out' and overdosing. However, there was a general consensus that an overdose was associated with specific symptoms, such as: shallow breathing, blue lips, and being unrousable.

Overdosing was perceived to be linked to several factors such as the purity (strength) of the drug used, intravenous use, and mixing with other drugs (especially Valium). The majority of users implemented harm-reduction techniques, such as: testing the strength of heroin before using it, always using the same amount, using with someone else, finding a trustworthy dealer, using with people they trusted, and judging the physical appearance of the drug. Users stated that overdosing was something to be expected given the nature of drug misuse.

Users offered a wide range of suggestions to help prevent non-fatal and fatal overdose, including: don't mix drugs, better education, better advice and support in needle exchange schemes, testing the purity, using with others, making prescriptions easier to obtain, providing safe injection rooms, additional naloxone training, easier access to treatment, offering alternatives to methadone, better border controls on the military to prevent heroin being brought back by soldiers, and legalisation of drugs.

## **Conclusions**

Naloxone training (and associated access to naloxone) was seen by many participants as effective in preventing fatal overdoses. There was a common view among users that naloxone training programmes and naloxone awareness schemes should be increased. This could be done by broadening the type of locations that health information was provided, including: needle exchange programmes, drug agencies, hostels, and job centres. Training might also be broadened to include advice on how to avoid non-fatal overdose. This might include additional information on identifying and responding to variations in tolerance and how to identify the strength (purity) of a drug.

We believe on the basis of the research that there are several actions that could be taken that might reduce non-fatal overdose.

First, naloxone training should attempt to include a broader range of harm-reduction techniques that would encompass non-fatal as well as fatal overdose prevention. These include providing information on how to recognise an overdose (or incipient overdose) in themselves as well as in others.

Second, research has focused to date on opiate users. However, there has recently been an increase in drug-related deaths among users of new psychoactive substances. Attention should also be paid to the less common drugs implicated in drug overdose such as mephedrone, amphetamines, benzodiazepines and anti-depressants.

Third, attention should be paid to the effects of drug mixing and appropriate advice should be given through advertising campaigns or through naloxone training programmes.

Fourth, the role of alcohol in drug misuse should be investigated more closely and appropriate advice offered on safe levels of use.

Fifth, some attempt should be made to identify the purity of current street heroin and to devise an early warning system that could inform users when purity levels were unusually high.

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## **Part One: Introduction**

# A National Survey of Non-Fatal Overdoses among Opiate Users

## 1. Introduction

The non-fatal overdose survey arose out of the evaluation of the Take Home Naloxone Demonstration Project (Bennett & Holloway, 2011). As part of the evaluation, two small surveys were conducted to obtain information on non-fatal overdose. The first survey was based on demonstration sites where naloxone had been administered. Information was obtained from 28 completed replenishment forms on the characteristics of the overdose event, including: whether an ambulance was called, whether CPR was used, and the type of drugs consumed. The second survey was based on a comparison site where (in most cases) naloxone had not been used. In total, 39 respondents provided information on the nature of specific overdose events, including: whether an ambulance was called and whether CPR was used, as well as the location of the person (at home or in a public place).

The two small overdose surveys were useful and provided new insights into the nature of non-fatal overdose events. However, they raised the broader question of how many opiate users each year experience non-fatal overdose. The question is important because non-fatal overdoses are sometimes described as 'near misses' and could easily have resulted in a fatality were it not for the actions of others. In order to answer this question, it was necessary to conduct a larger, and preferably national, survey of the proportion of injecting opiate users who experienced a non-fatal overdose. This was the aim of the current project.

Shortly after the end of the Take Home Naloxone evaluation, the Welsh Government funded a follow-up study to investigate the problem. The study was divided into two parts: a *quantitative questionnaire survey* of injecting opiate users to find out the prevalence of non-fatal overdose, and a *qualitative interview survey* of a subset of the respondents to find out the nature and circumstances of the event.

The aims of the *quantitative questionnaire survey* of opiate users were to determine:

- the prevalence of non-fatal overdose (one or more per year) among opiate users across Wales,
- the incidence of non-fatal overdose (the number of repeat overdoses)
- the most common identifiers used to determine that a person had overdosed
- the most common actions taken in response to an overdose

The aims of the *qualitative interview survey* of opiates users were:

- to obtain more detail on the characteristics of specific overdose events
- to explore the perceived causes of overdose
- to understand the extent to which users were concerned about overdosing
- to examine users' attitudes to risk taking and risk reduction
- to find out what affect overdosing had on future behaviour
- to elicit users' views on the most effective forms of prevention

## **Part Two: The Questionnaire Survey**

## 2. The Questionnaire Survey

The aims of the *quantitative questionnaire survey* of injecting opiate users were to determine:

- (1) the prevalence of non-fatal overdose (one or more per year) among opiate users across Wales
- (2) the incidence of non-fatal overdose (the number of repeat overdoses)
- (3) the most common identifiers used to determine that a person had overdosed
- (4) the most common actions taken in response to an overdose

### 2.1 Background

The prevalence of fatal overdose has been monitored in England and Wales for several years from information provided from registered deaths. The figures for England and Wales as a whole show that in 2012, there were 2,597 deaths from drug poisoning (involving either legal or illegal drugs) which represents a small reduction on 2011. The equivalent figure for Wales was 214 deaths in 2012 which also represents a small reduction from 2011 (ONS, 2013). The total number of deaths *attributed to drug misuse* in England and Wales was 1,496 in 2012 compared with 1,605 in 2011. The equivalent numbers for Wales were 131 in 2012 compared with 137 in 2011.

There are no similar sources of data on the numbers of drug users who experience non-fatal overdose each year. The best evidence that is available comes from small research studies of opiate users. We conducted a brief review of the literature on the topic and identified 14 studies that presented estimates of non-fatal overdose ever or in the last 12 months among drug users (see Table 1). The studies were conducted in Australia (n=4), Sweden (n=3), US (n=3), UK (n=2), China (n=1), and Spain (n=1). The samples were mainly described as heroin or opiate users, although some were presented as drug users or users in treatment.

Ten of the 14 studies provided lifetime estimates of non-fatal overdose (<sup>1</sup>). These ranged from 12 per cent (study 14) to 74 per cent (study 4). The mean prevalence estimate was 49 per cent. Nine of the 14 studies provided estimates of non-fatal overdose over the last 12 months (<sup>2</sup>). These ranged from 3 per cent to 30 per cent. In order to calculate the mean we have included the two estimates provided by study 9 covering 12 months before and 12 months after treatment. This resulted in a mean of 17 per cent.

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<sup>1</sup> (Bennett & Higgins, 1999; Bohnert, Roeder, & Ilgen, 2010; Brådvik, Hulenvik, Frank, Medvedeo, & Berglund, 2007; Darke & Ross, 2001; Darke, Ross, & Hall, 1996; Gossop, Griffiths, Powis, Williamson, & Strang, 1996; Hakansson, Schlyter, & Berglund, 2008; Seal et al., 2001; Yin et al., 2007).

<sup>2</sup> (Bennett & Higgins, 1999; Britton, Wines, & Conner, 2010; Brugal et al., 2002; Darke & Ross, 2001; Darke et al., 1996; Darke, Williamson, Ross, & Teesson, 2005; Dietze, Jolley, Fry, Bammer, & Moore, 2006; Hakansson et al., 2008; Seal et al., 2001; Yin et al., 2007).

In February 2013, the Welsh Government published the Substance Misuse Delivery Plan 2013-2015 which included the specific target of, 'reducing the number of substance misuse related deaths and *non-fatal overdoses* / alcohol poisonings in Wales'.

Table 1: Prevalence of lifetime and last 12 month overdose reported in the research literature

No.		Year	Country	Sample	Overdosed ever	Overdose last 12 months
1	Bennett, G. and Higgins, D. (1999).	1999	UK	212 injecting drug users	58% had ever overdosed	30% had done so in the last 12 months.
2	Bohnert, A. et al. (2011).	2011	US	5892, opiate users	18% had a history of non-fatal overdose	
3	Bradvik, L. et al. (2007).	2007	Sweden	149 regular heroin users	66% had taken an unintentional heroin overdose at some time	
4	Bradvik, L. et al. (2007).	2007	Sweden	149 regular heroin users	74% had at least one overdose	
5	Britton, P. et al. (2010).	2010	US	2966 substance misusers in treatment		3% of respondents reported an OD in the 12 months post treatment.
6	Brugal, M. et al. (2002).	2002	Spain	2556 heroin users in treatment		The prevalence of overdose was 10%
7	Darke, S. and Ross, J. (2001).	2001	Australia	223 methadone maintenance patients	66% reported having experienced at least one heroin overdose.	19% overdosed whilst enrolled on their current treatment programme.
8	Darke, S. et al. (1996).	1996	Australia	329 heroin users	68% had ever overdosed.	
9	Darke, S. et al. (2005).	2005	Australia	495 heroin users		The 12-month overdose rate declined from 24% to 12%.
10	Dietze, P. et al. (2006).	2006	Australia	257 recent non-fatal heroin overdose survivors		75% had experienced an additional overdose, half in the 6 months prior to interview.
11	Gossop, M., et al. (1996).	1996	UK	483 heroin users in a nonclinical sample	23% reported at least one overdose.	

12	Hakansson, A. et al. (2008).	2008	Sweden	1,113 Swedish CJ clients using opioids in last 30 days	55% reported a history of nonfatal OD
13	Seal et al. (2001)	2001	US	1427 street recruited heroin injectors	48% had experienced an overdose
14	Yin et al. (2007).	2007	China	731 heroin users	12% had experienced at least one drug overdose

### 3. Methods

The broad approach of the survey was to sample all needle-exchange programmes in Wales that were operated by treatment agencies (as opposed to schemes operated by independent pharmacies). The rationale for the approach was that the clientele of the needle-exchange programmes included a large proportion of injecting opiate users who were the target group of the research. They also included users who might be otherwise unknown to the treatment agencies. While the population of all injecting opiate users is unknown, this method of sampling provides access to a good cross-section of users at risk of non-fatal opiate overdose.

#### 3.1 Research design

The questionnaire survey utilised a cross-sectional design in which respondents were recruited at a point in time from needle-exchange schemes in substance misuse agencies in Wales. The survey was conducted during a four-week period from 25 February to 22 March 2013.

#### 3.2 Sampling

The Welsh Government made available a list of all agencies in Wales operating a needle exchange scheme. All schemes listed were initially included in the sampling frame. Some schemes were eventually removed on the grounds of inactivity and some were combined when records were available only for the combined groups. The original list included 38 schemes recorded on the NEO database (see Table 1). Of the 38 schemes, 9 were not included in the research due to low levels of activity leaving a total of 29 participating schemes covering 18 local authority areas. All 29 schemes (including mobile units) were included in the final sample.

### **3.3 Data collection method**

The method of data collection was based on the method used in the comparison site study of the national naloxone evaluation (Bennett and Holloway, 2011). This comprised a short questionnaire to be completed by needle exchange workers for consecutive users of the needle-exchange programme.

### **3.4 Administering the survey**

All needle-exchange schemes were provided with written information about the background and purpose of the research, as well as guidance on how it should be administered in accordance with established ethical principles. Laminated desk cards were also provided to all schemes to assist staff with recruiting and administering the survey (see Appendices). Needle exchange scheme staff invited each new person visiting the scheme to participate in the survey. In order to exclude users who had already completed the form, the person administering the survey asked users if they had already completed a form during the last 4 weeks. If they had, the appropriate box was ticked on the form and the remainder of the form was left blank. If the person had not already completed a survey, they were given information about the study and subsequently asked if they would be willing to answer a few questions before they left. The whole process was completed within just a few minutes. It was understood that when users reported a history of overdosing, particularly in the last 12 months, staff would provide standard harm-reduction advice.

Table 1: Original list of 38 needle-exchange sites

	<b>Site</b>	<b>Health Board area</b>
1	CAU - CRI	Cardiff and Vale
2	CAU - Newlands	Cardiff and Vale
3	CDAT - Mobile - CX07 CFA	BCU
4	CDAT - Mobile - LD09 PMV	BCU
5	CDAT - Mobile - PE08 NYZ	BCU
6	CDAT - Pontypridd	Cwm Taf
7	CDAT - Rhyl	BCU
8	CDAT - Shotton	BCU
9	CRI blackwood	Aneurin Bevan
10	Drugaid - Caerphilly	Aneurin Bevan
11	Drugaid - Merthyr	Cwm Taf
12	Drugaid Ebbw Vale	Aneurin Bevan
13	Drugaid Lighthouse	Aneurin Bevan
14	GSSMS - Newport	Aneurin Bevan
15	Gwynedd SMS	BCU
16	Huggard	Cardiff and Vale
17	Inroads Drug Project - Barry	Cardiff and Vale
18	Inroads Drug Project - Cardiff	Cardiff and Vale
19	Inroads Drug Project - Mobile	Cardiff and Vale
20	Kaleidoscope - Brecon	Powys
21	Kaleidoscope - Newtown	Powys
22	Kaleidoscope - Ystradgynlais	Powys
23	NWWSMS - Llangefni	BCU
24	Ogwr DASH - Bridgend	ABMU
25	Ogwr DASH - Mobile	ABMU
26	RISMS - Trealaw	Cwm Taf
27	Swansea Drugs Project	ABMU
28	TEDS - Aberdare	Cwm Taf
29	The Sant Centre - Rhyl	BCU
30	Turning Point Llanelli	Hywel Dda
31	Ty Croeso	BCU
32	Ty Gobaith Salvation Army	Cardiff and Vale
33	Wallich CHT	Cardiff and Vale
34	Wallich Hostel Cardiff	Cardiff and Vale
35	WGCADA - Swansea	ABMU
36	WGCADA - Bridgend	ABMU
37	WGCADA - Neath	ABMU
38	WGCADA - Port Talbot	ABMU

### **3.5 Research instrument**

Copies of the questionnaire used in the main study are included in the Appendices. The questionnaire was short (covering just one side of A4) and required respondents (or staff on their behalf) to tick boxes in response to the questions. The questionnaire asked respondents about whether they had overdosed ever, or in the last 12 months, as well as about the possible causes of a recent overdose and the actions taken at the time of the event.

### **3.6 Data analysis**

The quantitative data were entered into an SPSS database and analysed.

### **3.7 Samples and response rates**

During the course of the main questionnaire study, 1,765 responses were received with respect to 1,089 individuals (some users attended the schemes more than once). The NEO database showed that 2,698 unique transactions were made during the study period, which means that we obtained a 40 per cent response rate. Of the 1,765 responses that were received, 661 were in respect of opiate users. NEO data shows that 1,380 unique opiate users attended schemes during the study period, which means that we obtained a response rate relating to opiate users of 48 per cent.

## 4. Results

### 4.1 The prevalence of non-fatal overdose

In total, 661 opiate users currently attending a needle exchange programme responded to the questionnaire (approximately half of all opiate users visiting a needle exchange programme in Wales during the period of the research).

Overall, almost half (47%) of all respondents said that they had overdosed at least once in their lives and 15 per cent said that they had done so in the last 12 months. The prevalence of overdosing ever and in the last 12 months was similar among male and female respondents (no significant difference) (See Table 1). There was also no significant difference in the proportion of younger and older users who reported overdosing one or more times in their lifetime and in the last 12 months.

Table 1 Prevalence of overdose ever and in the last 12 months by demographic characteristics

	Yes	OD Ever No	Sig.	OD Last 12 months Yes	No	Sig.	Total
Male	47% (236)	53% (264)	ns	15% (76)	85% (424)	ns	100% (500)
Female	45% (67)	55% (82)		14% (21)	86% (128)		100% (149)
Under 35	44% (151)	56% (192)	ns	17% (59)	83% (284)	ns	100% (343)
35 or older	51% (135)	49% (132)		13% (35)	87% (232)		100% (267)
<b>Total</b>	<b>47% (308)</b>	<b>53% (353)</b>		<b>15% (100)</b>	<b>85% (561)</b>		<b>100% (661)</b>

Notes: Chi squared test: ns = not significant.

Variations in the proportion of opiates who had overdosed ever and in the last 12 months were also calculated for each of the 18 needle exchange areas. The prevalence of overdosing ever ranged from zero in two sites (admittedly with small numbers of respondents) to 75 per cent of respondents in the Huggard Centre, a city centre hostel. Similarly, the proportion of users who reported overdosing in the last 12 months ranged from zero in 6 sites to 42 percent (also in the Huggard Centre).

The top three sites in terms of the proportion of overdose reported ever and in the last 12 months were the same for each comparison: Huggard Centre, WGCADA Swansea, and TEDS in Aberdare (See Table 2). The reasons for these differences are not obvious. The Huggard Centre and WGCADA Swansea both service large urban areas (Cardiff and Swansea), both of which have substantial and historic drug problems. However, Inroads in Cardiff and Kaleidoscope in Newport also serve large urban areas. These local differences are certainly worth examining in more detail in future research.

Table 2 Prevalence of overdose ever by agency

	Overdosed Ever		Total
	Yes	No	
Huggard	75% (73)	25% (24)	100% (97)
WGCADA Swansea	73% (8)	27% (3)	100% (11)
TEDS	71% (10)	29% (4)	100% (14)
WGCADA Port Talbot	60% (9)	40% (6)	100% (15)
Turning Point	60% (3)	40% (2)	100% (5)
WGCADA Neath	56% (5)	44% (4)	100% (9)
Ty Gobaith	50% (3)	50% (3)	100% (6)
North Wales	50% (19)	50% (19)	100% (38)
Drugaid	46% (24)	54% (28)	100% (52)
CAU	44% (21)	56% (27)	100% (48)
GSSMS	42% (18)	58% (25)	100% (43)
SANDS	40% (77)	60% (117)	100% (194)
Inroads	40% (15)	61% (23)	100% (38)
CRI Blackwood	29% (7)	71% (17)	100% (24)
WGCADA Bridgend	28% (11)	72% (28)	100% (39)
Ogwr Dash	25% (5)	75% (15)	100% (20)
RISMS	0% (0)	100% (7)	100% (7)
Kaleidoscope	0% (0)	100% (1)	100% (1)
<b>Total</b>	<b>47% (308)</b>	<b>53% (353)</b>	<b>100% (661)</b>

Table 3 Prevalence of overdose in the last 12 months by agency

	Overdosed Last 12 months		Total
	Yes	No	
Huggard	42% (41)	58% (56)	100% (97)
WGCADA Swansea	36% (4)	64% (7)	100% (11)
TEDS	21% (3)	79% (11)	100% (14)
North Wales	13% (5)	87% (33)	100% (38)
GSSMS	12% (5)	88% (43)	100% (43)
SANDS	12% (24)	88% (170)	100% (194)
Inroads	11% (4)	90% (34)	100% (38)
WGCADA Neath	11% (1)	89% (8)	100% (9)
Drugaid	10% (5)	90% (47)	100% (52)
CAU	10% (5)	90% (43)	100% (48)
WGCADA Bridgend	5% (2)	95% (37)	100% (39)
Ogwr Dash	5% (1)	95% (19)	100% (20)
CRI Blackwood	0% (0)	100% (24)	100% (24)
Kaleidoscope	0% (0)	100% (1)	100% (1)
Ty Gobaith	0% (0)	100% (6)	100% (6)
WGCADA Port Talbot	0% (0)	100% (15)	100% (15)
Turning Point	0% (0)	100% (5)	100% (5)
RISMS	0% (0)	100% (7)	100% (7)
<b>Total</b>	<b>15% (100)</b>	<b>85% (561)</b>	<b>100% (661)</b>

## **4.2 The incidence of non-fatal overdose**

The research also aimed to investigate the incidence (or rate) of non-fatal overdoses among opiate users in Wales. Among the 100 people who said that they had overdosed in the last 12 months, 85 provided information about the number of times that they had overdosed during that period. On average, these respondents reported overdosing on 2 occasions (mean = 1.98; median = 1.0; mode = 1; standard deviation = 1.739). Just over half of respondents (52%) had overdosed on one occasion, 31 per cent had overdosed twice, 8 per cent had overdosed 3 times and 9 per cent had overdosed more than 3 times, including one person who had overdosed on 12 occasions.

Male and female respondents reported similar rates of overdosing in the past year, although this was slightly, but not significantly, higher among women (2.05 overdoses compared with 1.97). Older respondents, aged 35 or older, reported a higher, but not significantly higher, rate of overdosing than younger respondents aged under 35 (2.2 compared with 1.9).

## **4.3 The characteristics of recent overdose events**

The questionnaire also asked respondents to describe some of the features of their most recent overdose. To this end, respondents were asked about the location (indoors or outdoors), whether they were alone or with others, and whether the overdose was intentional. The respondents were also asked if they had injected or smoked a drug before the event and what they thought the reasons were for the overdose.

The results of the analysis are shown in Table 4. The majority (75%) of overdoses took place indoors and in the company of others (86%). In most cases the overdose was accidental, but in a small proportion (5%) it was intentional. While the majority (61%) of respondents said that they did not worry about overdosing, more than one-third (39%) said that they did.

In terms of the substances that had been used in the period immediately prior to overdosing, the vast majority (97%) had injected an opiate (89% + 8%). Interestingly, a small number of respondents overdosed even though they had not injected any drug.

Table 4 Characteristics of recent overdose events

	Frequency	Percent
Indoors	213	75%
Outdoors	72	25%
Total responses	285	100%
Alone	39	14%
With others	245	86%
Total responses	284	100%
Intended to overdose	15	5%
Did not intend to overdose	273	95%
Total responses	288	100%
Worried about overdose	111	39%
Not worried about overdose	173	61%
Total responses	284	100%
Injected - opiate	255	89%
Injected - other drug	7	2%
Injected - both	22	8%
Had not injected	4	1%
Total responses	288	100%
Smoked - opiate	45	17%
Smoked - other drug	32	12%
Smoked - both	14	5%
Had not smoked	179	66%
Total responses	270	100%

Notes: Some missing cases. Chi squared test or ANOVA. ns = not significant. \*  $p < .05$ .

The questionnaire also asked respondents to indicate what they thought the causes of their most recent overdose were (multiple responses were possible) (see Table 5). Half of respondents indicated that they thought the overdose was because they had taken too much of the drug. A third believed that it was because they had mixed substances, and just over a quarter indicated that it was because their tolerance to the drug was too low. Fourteen per cent said that the overdose was related to the high purity of the substance and 11 per cent said that it was due to other factors such as being a novice, recent release from prison, and attempted suicide.

These responses overlap to some extent. It would appear that the most important reasons for overdose were a combination of taking too much, drug mixing, and factors relating to tolerance ('due to purity', 'due to tolerance', and 'due to other issues').

Table 5 Perceived causes of recent overdose events

	Frequency	Percent
Drug mixing		
Yes	96	33%
No	191	67%
Total responses	287	100%
Taking too much		
Yes	143	50%
No	143	50%
Total responses	286	100%
Due to purity		
Yes	39	14%
No	247	86%
Total responses	286	100%
Due to tolerance		
Yes	73	26%
No	213	75%
Total responses	286	100%
Due to other issues		
Yes	31	11%
No	254	89%
Total responses	285	100%

Notes: Some missing cases.

#### 4.4 The most common actions taken in response to an overdose

The questionnaire asked respondents to indicate what actions were taken (as far as they know) to help them at the time of their most recent overdose. Of the 308 respondents who had overdosed at some point in their lives, 284 answered the question (see Table 6).

Two-thirds (66%) said that an ambulance was called, 43 per cent said that they had been placed in the recovery position and more than one-quarter (27%) said that they had been given CPR. Naloxone was reportedly used to help 110 respondents. In 58 cases, naloxone was administered by a paramedic and in 49 cases naloxone was administered by someone other than a paramedic. In 6 cases, naloxone was administered by both a paramedic and someone else.

When reviewing these findings, it should be noted that the respondents were unconscious at the time of the event and they may not know all the actions that were taken to help them. The figures should therefore be treated with some caution.

Table 6      Actions taken at recent overdose events

	Frequency	Percent
Ambulance called		
Yes	187	66%
No	97	34%
Total responses	284	100%
CPR given		
Yes	76	27%
No	207	73%
Total responses	283	100%
Recovery position used		
Yes	121	43%
No	162	57%
Total responses	283	100%
Naloxone by paramedic		
Yes	64	23%
No	220	78%
Total responses	284	100%
Naloxone by other		
Yes	55	19%
No	229	81%
Total responses	284	100%
Don't know		
Yes	39	14%
No	245	86%
Total responses	284	100%

Notes: Some missing cases.

## 5. Conclusion

Overall, almost half (47%) of all opiate users said that they had overdosed at least once in their lives and 15 per cent said that they had done so in the last 12 months. The findings are remarkably similar to those derived from the literature review of 14 studies providing estimates on lifetime and/or 12 month prevalence rates of non-fatal overdose. The mean lifetime prevalence of non-fatal overdose reported in 10 of the 14 studies was 49 per cent (compared with our estimate in Wales of 47 per cent) and the mean 12 month prevalence was 17 per cent (compared with our estimate of 15 per cent). While the closeness of the percentages is likely to be in part fortuitous, it suggests that the estimates in Wales are not very different from those found in other countries.

These estimates are important for many reasons. The existing data on drug-related deaths, hospital admissions, and patient episodes do not answer the research question concerning the number or percentage of non-fatal overdoses. Data collected from self-reports of opiate users is possibly the only way of obtaining this kind of information. It is important to know this percentage because it identifies the proportion of the opiate-using population that is at risk of fatal overdose. The information is also useful in that it can provide a baseline measure of non-fatal overdose in Wales which can be used to identify changes in use patterns as well as the effectiveness of harm-reduction measures. The prevalence of 12 month non-fatal overdose can also be used to evaluate specific interventions and has already been used in this way in research in Australia (Darke et al., 2005).

The quantitative survey has also been important in that it has identified many of the features and characteristics of non-fatal overdose which were not previously known in relation to the whole of Wales. The research has shown that the majority of non-fatal overdoses occurred indoors and in the company of others. It is unknown the extent to which these characteristics of the situation prevented the overdose from becoming fatal. However, it would not be unreasonable to assume that they at least helped. In fact, naloxone was administered to 38 per cent of all respondents who reported a non-fatal overdose. We also know that in 66 per cent of cases an ambulance was called and in 27 per cent of cases CPR had been given.

There are several other features of the non-fatal overdose event that are worth noting. Five per cent of those who experienced an overdose intended to do so. It is unclear whether this constituted an attempted suicide or whether the persons wanted to take a large and possibly debilitating dose for other reasons (e.g. a cry for help). One of the most striking features of their responses was the fact that almost two-thirds said that they were not worried about overdosing. This might be because they intended only to 'gouch out' or they had faith in their companions in bringing them around.

It is interesting that a small percentage of users had overdosed without injecting any drug. This might be because the person had smoked and consumed a large dosage of opiates or more likely that the drug was combined with other depressants (e.g. alcohol). The respondents provided some information on the likely cause of the overdose. The most common presumed cause was that they had taken too much,

although the second most common perceived cause was drug mixing. Other causes related to issues concerning the person's current tolerance for the drug.

Overall, the survey has shown that important information can be gathered from surveys of drug users. While we would have liked a higher response rate, the fact that we obtained information from almost half of current injecting opiate users in Wales using needle exchange programmes during the period of the research has provided useful information (albeit slightly biased in terms of only representing opiate users who were willing to participate in the research). In practice, this is the only current source of information on non-fatal overdose and as such has provided a baseline measure of non-fatal overdose among opiate users in Wales.

## **Part Three: The Interview Survey**

## **6. The Interview Survey**

The qualitative *interview survey* of injecting opiates users aims were:

1. to obtain more detail on the characteristics of specific overdose events
2. to explore the perceived causes of overdose
3. to understand the extent to which users were concerned about overdosing
4. to examine users' attitudes to risk taking and risk reduction
5. to find out what affect overdosing had on future behaviour
6. to elicit users' views on the most effective forms of prevention

## **7. Background**

The background brief review of the research literature is based on studies that had interviewed opiate users. In total, we identified nine studies that had discussed aspects on non-fatal overdose with drug users. The list of studies reviewed is shown in Table 1. Five of the studies were conducted in the UK, three in Australia, and one in Sweden.

Table 1: Overdose research studies based on interviews with drug users

No.		Year	Country	Sample
1	Bennett, G. and Higgins, D. (1999).	1999	UK	212 injecting drug users
2	Bradvik, L. et al. (2007).	2007	Sweden	149 regular heroin users
3	Dietze, P. et al. (2006).	2006	Australia	257 recent non-fatal heroin overdose survivors
4	Gossop, M., et al. (1996).	1996	UK	483 heroin users in a nonclinical sample
5	Kerr, D. et al. (2009)	2009	Australia	99 IDUs interviewed at needle exchange programmes
6	McGregor et al. (1998)	1998	Australia	218 current heroin users in a community setting
7	Neale, J. (1999)	1999	UK	74 drug users in hospital settings relating to recent overdose
8	Neale, J. (2000)	2000	UK	33 attending accident and emergency services relating to recent overdose
9	Powis, B. et al. (1999)	1999	UK	312 IDUs interviewed in a community setting

A brief summary of some of the results obtained is presented in the text below. The main themes found in the research were used to orient the presentation of the results later in this report. These were:

- Recognising an overdose
- Number of times overdosed
- Details of the most recent event
- Causes of overdose
- Concerns about overdose
- Risk reduction
- Changes in behaviour after an overdose
- Prevention

## **7.1 Recognising an overdose**

The majority of studies which discussed recognising an overdose focused on the experiences of individuals who witnessed users overdosing. Only one study that we found asked respondents about how they recognised that they had overdose. Neale (1999) asked users what they could remember about their overdose. Most respondents could remember very little about how they had felt at the point of overdose. In fact, many reported that events had happened suddenly and without warning. However, some described their feelings prior to the overdose. Some respondents reported being aware that all was not well when taking their last drug, and several remembered being violently sick, nausea, dizziness, numbness, and a tingling sensation.

The remaining studies concerned how users recognised overdose in others. Bennett and Higgins (1999) asked their participants how they could tell that someone had overdosed. Their responses, grouped into four categories: colour change, breathing difficulties, and poor circulation. The two most frequently reported signs were lips or face turning blue and unconsciousness or a state of sedation.

Powis et al. (1999) reported that the main ways that respondents said they would be able to tell if someone had overdosed was if they had collapsed, turned blue, eyes rolling back, if they had stopped breathing, or were visibly dead. Kerr, Dietze, Kelly, and Jolley (2009) noted that the majority of participants recognised altered consciousness as a sign of heroin overdose, while others mentioned depressed breathing and cyanosis. Gossop et al. (1996) asked respondents how they recognised an overdose. Almost all respondents reported the mouth or face changing colour and unconsciousness as the main indicators.

## **7.2 Number of times overdosed**

Several studies discussed with users the number of times they overdose. Dietze et al. (2006) noted that one-fifth of the sample had experienced an overdose prior to their most recent overdose event. A study by (Powis et al., 1999) reported that among those participants who had overdosed, the mean number of times they had overdosed was five. Nine per cent of the sample reported having had 10 or more overdoses.

## **7.3 Details of the most recent event**

Most of the studies that provided information on the details of the most recent event described the drugs that had been consumed. Neale (1999) asked respondents about the drugs that they had consumed prior to their last overdose. Methadone and heroin were the most commonly cited drugs. On the occasion of their last overdose, most individuals had consumed a combination of substances. Of all drugs, heroin was the most frequently cited, but other drugs commonly taken were temazepam, diazepam, methadone, and amphetamines. Illegal drugs had also often been used in conjunction with alcohol, over-the-counter medicines, and other prescribed

medication. Twelve individuals had not consumed any opiates prior to overdosing but reported consuming alcohol, amphetamines, or unknown tablets.

Powis et al. (1999) asked 117 users who had overdosed to provide more detail about the time they had last overdosed. The majority of those who overdosed were with someone else when they last overdosed. Of these, most reported being with a close friend, with a partner, or with a casual acquaintance. The large majority (80%) of participants had injected drugs when they last overdosed. The remainder were taking the drugs orally. Sixty-one per cent of subjects on the last occasion of overdose had been using only one drug (mostly heroin) and the remainder had used more than one drug on their last occasion of overdose. Just under one quarter had used two drugs, 12 per cent had used three drugs and 4 per cent had used four or more drugs. Respondents who had used more than one drug on the last occasion of overdose had used a combination of heroin, benzodiazepines, methadone, other opiates, stimulants, and barbiturates. Over half the subjects had been using alcohol on the day that they last overdosed.

#### **7.4 Causes of overdose**

Several studies asked respondents why they think they overdosed on the last occasion. Bennett and Higgins (1999) asked 124 users who reported overdosing why they thought their most recent over-dose had happened. The most frequent perceived causes were: excessive consumption of drugs, mixing drugs, low tolerance to drugs, too intoxicated, and a state of mind (an ambivalent state where the person was not concerned whether or not he or she survived from injecting a large quantity of drugs). Gossop et al. (1996) asked respondents why they overdosed on their last occasion. The main reasons given were taking a higher than usual dose, heroin being stronger than usual, using alcohol at the same time, and using heroin again after abstinence. Ten per cent reported having taken an overdose deliberately either as a suicide attempt or to push the limits of their intoxication.

Dietze et al. (2006) examined participants' attributions of the causes of their most recent overdose. The majority attributed it to the quantity of heroin used followed by the quality (purity) of heroin used. The next reason given in order of frequency was mixing heroin with other drugs. The most cited combination was mixing heroin with benzodiazepines, followed by mixing heroin and alcohol, and then mixing all three. Powis et al. (1999) reported that over half the respondents had been using alcohol on the day that they last overdosed. The mean number of units that these subjects had drunk on the day of overdose was 17 units, with one respondent having drunk 70 units.

Several studies discussed the link between suicidal intentions and overdose. Neale (2000) reported that the most common reasons given were a deliberate intention to overdose or feeling so low that they did not care whether they lived or died. Suicidal thoughts and feelings were reported by nearly half of the interviewees. Other explanations for overdosing given by the respondents included having a lowered drug tolerance (either because of being recently released from prison or because of recent efforts to reduce drug consumption); mixing drugs (most frequently heroin with benzodiazepines or heroin with alcohol); obtaining unexpectedly stronger drugs than

usual; using a different drug or drugs from the usual; taking unknown tablets; and taking too much drug(s) through lack of self-control (Neale, 1999).

## **7.5 Concern about overdose**

According to Neale (1999), several respondents described their last overdose as unpleasant and frightening. None referred to the experience as euphoric or blissful. However, many respondents thought they would overdose again at some point in the future. Moreover, some respondents believed their next overdose would be fatal.

There were several other concerns that were voiced apart from the possible fatal consequences of overdose. Their first thoughts usually related to the whereabouts of children (mostly an issue for female drug users); the whereabouts of possessions (particularly money and cigarettes, but also any illegal drugs they were carrying prior to the overdose); fear of being given any treatment that might result in unpleasant withdrawal symptoms; hunger; and thirst (Neale, 1999). They also included the need for prescribed methadone; fear of police or other statutory officials (such as social workers) hearing about the incident; concern about how to get home without money or clean clothes; the desire for a doctor to examine injection-related wounds and infections or injuries sustained from recent violence or personal attack; and the desire for illegal drugs.

## **7.6 Risk reduction**

Users were also aware of methods of reducing risks. Bennett and Higgins (1999) asked users about actions that might be taken to reduce the chance of experiencing an overdose. The three main responses were: to be cautious and respect the drug; not to use excessively; and not to mix different drugs. Other risk reduction measures mentioned were: use in relation to tolerance, avoid injecting, make sure you inject in company of others, talk about your worries, keep in good health, and lead a better lifestyle.

McGregor, Darke, Ali, and Christie (1998) listed some of the preventative strategies used by respondents to reduce the chance of an overdose. Measures to avoid overdosing when they used heroin were taken by 97 per cent of the total sample. These included: not using more than they knew they could tolerate, the use of a test dose of a new batch of heroin, avoidance of alcohol when using heroin, and avoiding the use of benzodiazepines. Although 38 per cent of the total sample had nominated having a trial taste of a new batch of heroin as a preventative measure in heroin overdose, only 17 per cent of the total sample had done so every time or often in the previous six months. Over half rarely or never used heroin alone in the previous six months while 22 per cent had used heroin with the door locked every time or often in the previous six months. Over half the total sample had drunk alcohol or took benzodiazepines with heroin (40%) in the previous six months (McGregor et al., 1998).

## **7.7 Changes in behaviour after an overdose**

Neale (1999) describes how users felt and assessed their overdose experience immediately following the overdose. Their immediate experiences were feeling 'horrible', 'terrible', 'drained', 'tired', and 'exhausted'. In addition, many said they felt hungry and thirsty. Although most respondents said they did not feel that they needed or wanted more drugs at the time of the interview, some described pain and aching from withdrawal symptoms. Emotionally, many respondents were tearful and upset. When questioned about the reasons for their distress, most referred to the severity of their drug dependence or to personal, social and medical problems. Many respondents were also clearly in a state of confusion. That is, they struggled to remember where the overdose had occurred, who else had been present, and what combinations of drugs they had taken. Many had no idea about how they had arrived at hospital and could not comment on who might have called an ambulance for them. Neale (1999) concludes that descriptions of how respondents felt on regaining consciousness were overwhelmingly negative and provided no indication that drug users wanted to repeat the experience.

## **7.8 Prevention**

Finally, the literature provides some insight into actions that were taken during a recent overdose that might have helped facilitate recovery. Bennett and Higgins (1999) reported that the most common action taken at the time of an overdose was to attempt to stimulate the person. This was followed by attempts at CPR, seeking emergency medical help, attempts to place the person in the recovery position. Powis et al. 1999 reported that just over half of respondents who had over-dosed reported had gone to hospital as a result of any overdose.

## **8. Methods**

### **8.1 Research design**

The interview study utilised a cross-sectional design in which respondents were recruited at a point in time from needle-exchange schemes across Wales and asked if they would be willing to be interviewed on the telephone about their overdose experiences.

### **8.2 Sampling**

Respondents who took part in the qualitative interviews were recruited during the course of the pilot study (see Appendices). All respondents who completed the pilot questionnaire were asked if they also would be willing to participate in a confidential telephone interview about their overdose experiences. Those respondents who said that they were willing to take part were then asked to provide a contact telephone number that was written on a 'consent to be interview' card. These cards were stored securely within the agencies' offices and given to the research team at the end of the study period.

Additional interviewees were obtained through one local drug agency in South Wales. These were recruited with the help of the agency manager who asked needle-exchange clients if they would be willing to participate in a confidential telephone interview and organised for the interviewer to spend a day in the needle exchange inviting clients to take part in an interview (or 'have a chat' with the researcher about their overdose experiences) and conducting interviews there and then.

### **8.3 Data collection method**

The qualitative data were collected using a semi-structured interview schedule. The interviews were conducted by telephone and (with the interviewees' permission) were recorded digitally. The digital recordings were then uploaded to a secure transcription service which provided verbatim transcripts suitable for qualitative analysis.

### **8.4 Administering the research instrument**

The interviews were all conducted by the same researcher, which helped to ensure consistency of approach. The interviews were conducted in a relaxed and informal manner. At the start of the interview, respondents were provided with full details of the purpose of the interview and were asked for their permission to record it. They were advised of their right to skip any questions and to terminate the interview at any time. The interviewees were free to ask any of their own questions and to lead the discussion to issues that were relevant to them. It was the interviewer's role to ensure that the interview did not wander off too far from the aims of the research. At the end of each interview the interviewees were provided with information about sources of support that they could access.

## **8.5 Data analysis**

The interview transcripts were uploaded into NVivo and were coded on the basis of key themes that emerged from the literature review and during the course of the interviews.

## **8.6 Ethical issues**

The quantitative questionnaire study and the qualitative interview study were both approved by the Faculty of Business and Society (FBS) Ethics Champion and the FBS Ethics Committee within the University of South Wales. A copy of the approved ethical statement can be found in the Appendices. The main ethical issues stated in the document are briefly summarised below.

1. To obtain 'informed consent' by providing respondents with sufficient information about who we are, why we are conducting the survey and what we will do with the results.
2. To treat completed questionnaires as confidential and out of sight from other clients of needle-exchange schemes.
3. To ensure that the survey and interviews would be 'anonymous' in the sense that the person completing the questionnaire or interview would not be asked to reveal his name or provide any identifying information.
4. To ensure that the respondent would not be 'harmed' by the research by providing information about where to obtain support and advice, particularly if the respondent was disturbed by the experience.
5. To ensure the safety of the researchers by utilising the help of drug workers to administer the survey and the use of telephones to conduct the qualitative interviews.
6. To reassure respondents that their treatment at the agency would not be affected by their decision to participate or to not participate in the research.

## **9. Samples and response rates**

### **9.1 Sample**

The sample was obtained during the pilot study for the current project (see Appendices). Each user who completed a questionnaire was asked if he or she would be willing to be interviewed. If so, respondents were asked to complete a card which included a request for their telephone number. In total, 49 interview cards were returned to the research team. Of these 49 cards, 12 telephone numbers were illegible, incorrect or not provided, resulting in 37 usable contacts. Of these 37, at the time of calling (between September 2012 and September 2013), 7 had been disconnected, 4 participants had withdrawn their consent, 14 went repeatedly to voicemail and 12 were successfully interviewed. To boost the sample size, we recruited a further 3 participants from a needle exchange scheme in South Wales.

## **9.2 Characteristics of interviewees**

The interviews were conducted by telephone which, because of problems relating to reception or the location of the interviewee (e.g. on the streets), it was not possible to ask all questions in relation to all interviewees. This resulted in some missing information about the characteristics of the interviewees.

Eleven of the 15 interviewees gave their age. Among these, the mean age was 39 and the age range was 27 to 50. Twelve of the 15 were male and 3 were female. Ten of the interviewees answered the question about the length of time that they had been using. An approximate mean length of time (some answers were vague or covered a range) was 13 years. Most interviewees reported one or more overdoses in their lifetime. Among those who gave a precise number, the mean number of overdoses, among those who overdosed one or more times, was 3.3. Similarly, most respondents had witnessed an overdose. Few gave precise numbers, but just said 'yes' or 'yes loads'. Among those who gave a precise number or a narrow range reported on average witnessing 2.2 overdoses (including zero) or 3.9 overdoses (excluding zero).

**Table 1: Characteristics of interviewees**

	<b>Age</b>	<b>Sex</b>	<b>Primary drug</b>	<b>Length of use</b>	<b>No. of overdoses</b>	<b>No. of witnessed</b>
1	Didn't ask	Male	Heroin	Didn't ask	0	3-4
2	Didn't ask	Male	Heroin	Didn't ask	0	2
3	50	Male	Heroin	16 years	A few times	0
4	32	Female	Heroin	16 years	0	0
5	Didn't ask	Female	Heroin	10+ years	2	Yes
6	34	Male	Heroin	10 years	1	6+
7	32	Male	Heroin	8 years	2	Yes
8	37	Male	Heroin	13 years	2	Yes, loads
9	39	Male	Heroin	19 years	9-10	Yes (fatal too)
10	41	Male	Heroin	15-20 years	3	Yes
11	Didn't ask	Female	Heroin	4 years	0	4
12	41	Male	Diazepam	Number of years	5 (2x heroin)	n/a
13	50	Male	Heroin	12	4	0
14	27	Male	Heroin	Didn't ask	0	Yes
15	47	Male	Heroin	Didn't ask	1	Yes

## 10. Results

The results relating to the interviews with users are presented below under the same headings as were used for the literature review.

### 10.1 Recognising an overdose

Many of the users that we spoke to had some difficulties in defining precisely what an overdose is. In part this is because users accept that 'gouching out' (on the edge of consciousness) and sometimes complete unconsciousness was part of opiate use. Sometimes users denied that they had ever overdose but provided examples of 'waking up' several hours after administering opiates sometimes finding that someone was slapping them around the face at the time.

*"Um, no, not really. I think there was a batch going round, oh years ago, I was like an orangey colour and you'd take it and it'd wipe you out on the floor, you know, smoking wise now, not injecting. You'd smoke it, you'd done two or three lines, you'd wake up three hours later and you'd, you know, I just didn't know what had happened like. Well, I woke up three hours later with my mother slapping me across the face because obviously she didn't know I was using at the time like." (OD4) (32 year old female)*

Apart from noting that it felt like 'waking up', some users preferred the term 'blacking out' to described occasions when several hours were lost during the day. The most graphic example was of a 50 year old man who stated that he had never overdosed but can remember injecting and then waking up a day later covered in lumps on the back of his head.

*"No, no. Um, I've, I've blacked out a few times, you know? Like after I've injected, you know, um I just, I just woke up in a place like at the bottom of the stairs or something and thinking 'wow, how did I get here? And the last thing I, last thing I remember I was in the bedroom or something and all of a sudden I'm at the bottom of the stairs with lumps on the back of my head and things like that. You know? ... I've lost a day or two. You know, I've injected and, you know, I've just been completely out, you know, for, you know, for a full day like ... So, I, I've lost time in that respect. ...I've injected myself ... three o'clock on a Wednesday afternoon ...I've woke up and I'm thinking it's midnight ... looking out the window and I' thinking 'wow, it's light for midnight' ... I'll go downstairs ... and it's 12 o'clock on Thursday." (OD3)*

This kind of breadth of definition makes it difficult to identify non-fatal overdose. The level of denial of overdose was often quite extreme. One 37 year old male described how he woke up with his girlfriend hitting him hard to bring him around but nevertheless denied that he had overdosed.

*"No, luckily enough, no, touch wood ... I've come close to going over, yeah ... I just had a fix and, you know, I've come around, you know, and*

*my girlfriend kicking me to come around, you know? I think, if she wasn't there I would have gone over probably like, you know. ... because I had a fix and my girlfriend had been whacking me like, you know, and bringing me around. But, I haven't actually gone under myself like.” (OD8)*

Users were then asked more directly how they recognised that they or others had experienced an overdose. It was often acknowledged that there was a fine line between 'being wrecked' and 'going over'. One 41 year old male described it as being like a continuum where the precise cross-over point is hard to define.

*“It's a fine line of being wrecked and, and going over at the same time, do you know what I mean? So, you know, you can't like, um, how can I say? You can't put a scale on how high you are if you want then, you know.” (OD10)*

Others were more willing to draw a line between 'gouching' and overdose and to make a distinction based on the state of consciousness at the time.

*“No, I wouldn't say it was a fine line. You know, when you gauch out it, it's a pleasure, or it's part of the pleasure of the drug, innit? You know, if you're taking heroin like, you know ... after a fix, you know, and they get their heads down, innit, like you just sit and that's part of the buzz really innit? That's what I call gauching out like ... But, then I don't think it's a fine line, no, I think you know, you go quite a way like to going over like.*

Users felt it easier to define overdose from the perspective of witnessed others rather than personal experience. Several mentioned lapsing into unconsciousness, lips turning blue, loud snoring noises, and unable to be revived when shaken.

## **10.2 Number of times overdosed**

Eleven of the 15 respondents were asked about the number of overdoses that they had experienced. Just 2 of the 11 said that they had overdosed just once. The remainder reported multiple overdoses ranging from 2 to 10. The question that this raises is why do users who have already experienced one overdose allow themselves to repeat the event sometimes over and over again?

Participants regularly stated that they did not repeatedly overdose, but they knew of people who did. One individual stated that overdosing is dependent on the quality and strength of the drugs at the time. However, the participant did not rule out the idea of overdosing again. This might be due to factors out of their control such as when the purity of the drugs increased.

*“I don't, I doubt it, but, err, with the way things are at the moment and the strength of the equipment and, no, I can't see it like. Not unless I come across a really good batch again...Not unless I come across a really good batch again, and maybe, yeah, it could happen again like.” (OD9)*

Other participants thought that recreational drug users were more prone to overdosing when they injected because of their lack of tolerance to high dosages of the drug. Many of the participants recognised that they increased the risk of overdose by injecting and were aware of other consequences such as blood borne viruses.

*“I’ve got a friend like who’s only got to look at a needle and he will overdose like. But, then he doesn’t do it regular, you know, he won’t, he doesn’t inject in front of me.” (OD9)*

Some users said that they knew of individuals who overdosed on a regular basis. Some might overdose twice in the same day. However, these were exceptions and participations generally regarded this as foolish.

*“I know boys who go over all the time like... you know, they’re idiots, yeah...I know boys who’ve gone over twice in the same day like...they’ve just got no regards for their life.” (OD9)*

Another participant stated that he regularly mixes drugs and had lost consciousness more than 20 times. The participant reported that, through exhaustion and fatigue, he will eventually fall unconscious.

*“I very rarely go to sleep so when I’m doing the heroin in and Valium, my body would just be paddling really, couldn’t take no more and I’d pass out ... just when I’d been up for so long on the amphetamines, I’d just pass out [taking the heroin and Valium to come back down]” (OD6)*

### **10.3 Details of the most recent event**

The majority of participants stated that when they overdosed, they had no recollection of what happened. Participants stated that they tended to lose consciousness soon after injecting and then wake up either in their own home or more than likely the hospital.

*“Yeah, just um syringe each. I spiked myself. I remember sitting back and enjoying the rush that’s it. (What’s the next thing you remember?) Coming round in the hospital the next day.” (OD12)*

The majority of participants stated that they had not increased the dose of drug when they overdosed. Some stated that Valium could have had a role in the lead up to overdose. One individual described Valium as a “dormant drug” that increases the effect of other drugs like heroin.

*“You know, like with myself, it’s Valium as well you see that’s just dormant like, do you know what I mean? And it’s just, um, it’s like, yeah, it gives you like a, starter...Like a booster like... And that then you’ve got a double on your hands then.” (OD10)*

Others stated that they were more susceptible to overdosing when they had too much Valium in their system.

*"I had too much Valium and too much, too much... no air into my body to take. Mixing with it, mixing Valium, that's what I think." (OD7)*

Some noted that there was a "bad batch" of drugs circulating at the time of their overdose. Participants sometimes tested small amount of the drugs to see how potent the drug was before using. Others injected straight away without testing.

*"What it was we'd had a bad batch of it going around and, you know, we put half a gram on between two of us and we had a big habit at the time. So we put the same amount on like, although it was new gear and, yeah, the gear proved to be too strong for me." (OD5)*

Users recovered from their overdose in various ways. Many cases involved the administration of naloxone. In one extreme case, a defibrillator was used to assist the user in regaining consciousness.

*"Yeah, in hospital, yeah, they put...err what do you call them paddles that shock you, for your heart". (OD12)*

#### **10.4 Causes of overdose**

The causes of overdose identified by participants can be split into four categories. The first category is polydrug use. Participants who used different drugs types at the same time were particularly vulnerable to overdosing. Participants stated that combining alcohol and opium based drugs increased the chance of overdosing.

*"I hadn't touched it for a few years, and after about ten pints it seemed a good idea. ... opiates and alcohol, I can honestly say, do not mix." (OD12)*

Several participants stated that using Valium with other drugs was seen as a contributing factor in overdosing. Participants stated that Valium had a significant role in overdosing, but were unclear in the role it had. Some participants stated that they had more than the recommended allowance of Valium in their body before combining it with another drug, and this led to overdose.

*"Yeah, I am taking Valium as well, so I was already down and my heartbeat was low anyway ... I think it was a contributing factor, yeah" (OD9)*

The second category is the lack of knowledge of the strength and purity of the drugs used. Participants stated that they regularly use the dangerous amounts due to not knowing the strength of the drug they are using. Dealers will state that their drug is strongest and of highest quality, however, users choose to ignore this information because dealers have a history of misleading users by cutting it with other items.

*"I think I'd done a bit too much, to be honest. And the strength of the gear at the time it was pretty strong as well like, so it was my mistake and I just ... because I'm used to doing like between a gram and two grams a day*

*like. So, I'm just taking it as a normal amount, and people always say, oh it's strong, strong, but you always hear that just because they want to sell it to you like, innit? (OD9)*

The strength of drugs changes over time, with a number of variables affecting the purity of the drug. Users might be informed of the current strength of the drug by other users, friends and dealers, but there is a considerable risk that the drug they are using might be cut with something else.

*"What it was, we'd had a bad batch of it going around and, you know, we put half a gram on between two of us and we had a big habit at the time. So, we put the same amount on like, although it was new gear and, yeah, the gear proved to be too strong for me. ... you think all gear is going to be crap until you try it. I mean, you're always looking for rush and you're never going to find it, are you? But, you're always looking for the rush like." (OD5)*

The third category is the individual pursuit for hedonism. Users will use more than they should for the desired high, without thinking of the consequences of their actions on their body and mind. Some participants use more than they normally would as a treat to themselves, and would overdose as a result.

*"Probably just felt a bit greedy probably like ... there was a time a few years ago and I used to sell it like ... So I had more than, you know, I could treat myself now and again like, you know what I mean ... maybe I'd just like to treat myself and have a little bit more like ... more than I would normally have like." (OD8)*

The fourth category is based around availability and opportunism. One participant stated that on pay day, he would purchase several bags of drugs and use. Increased finances allow the participant to maintain and increase their drug use that in turn results in a higher likelihood of overdose.

*"It was just my money day, basic, ordinary, what I'd plan to do on my money day and bought three bags ... I think it was three or five bags and me and my mate we had it between us. We had some Valium, had a can or two and then I just went over. I woke up, the ambulance people around me and I was in hospital for the day. My mother, you know, my mother said she didn't want to see that again and stuff. And I was coming round, it was horrible, you know." (OD7)*

### **10.5 Concern about overdose**

The majority of participants stated that they do not worry about overdosing. Some participants stated that if the main concern was the fear of overdosing, they would cease to use the drug.

*"No, no, not really, no concern then ... if you thought about going over, you wouldn't take it." (OD12)*

Others stated that they knew their limits to what they could take. Even if they thought they might overdose on a particular drug because of the strength of the drug, they would still use the drug.

*"It goes through my mind with that like, you know? So, about six or seven go in and then you think, ooh, this is strong here that, f\*\*k me, you know? Sorry about my language. ... You think well this could be, you know, this could be dangerous, you know what I mean? But, you still do it." (OD10)*

Some participants accepted the fact that overdoses might happen, due to the nature of drug misuse. One participant explained that he had witnessed friends overdose and die in front of him, and that was part and parcel of being a heroin addict.

*"When I start thinking about friends I've lost with an overdose and who died in front of me, and that makes me think like, do you know what I mean? But, at the end of the day, I'm a heroin addict" (OD9)*

Participants, who did worry about overdosing, had different ways of coping with the thought of overdose. One participant stated that he tried to use heroin in moderation instead of binging as a harm reduction method. Others stated that they stopped going out because of the desire to use in the company of other drug users.

*"I've stopped and I don't go out much since that. I've you know, I've realised, you know, what I'm losing and how my family are feeling, things like that, you know. So, I just don't go out, you know, I, I had to get into a different routine basically because I had to, you know. And I'm still doing it now basically. It's hard, every time I wanna go out now, you know, I wanna use, you know." (OD7)*

A minority of participants were extremely fearful towards the idea of overdosing. Some individuals stated that they knew that their life could be at risk, and tried to consider a life without drugs, however, the addictive quality of drugs overrides feelings of safety.

*"It was getting to a stage when I was injecting um, you know, and now like, you know, when I when I inject I just think, you know, 'is this, is this the last time like', you know what I mean. 'Am I going to drop here now and ... so this is a fear there with me. And pushing that plunger, you know, every time, you know. Perhaps it's because I'm going to church ... and I'm praying and reading. I'm doing things that, that are good perhaps ... and trying my best to, to live a normal life and I don't, I don't want to do this any more. But, every time I push that plunger, you know, it's, there's a fear in me, you know, and I, and I don't want to do it and I don't want to die. There is a massive fear of overdosing, you know? ... but it still does not stop me, no. I know it's ... isn't it mad?" (OD3).*

## 10.6 Risk reduction

Participants in this sample identified several forms of risk reduction, with the most popular method being using a small sample of the drug instead of a regular dose. Intravenous users stated they would smoke the drug before injecting to see if the drug was of good quality, instead of injecting a possibly harmful concoction.

*“Well, it’s common sense I would have thought, really, anyway like, you know what I mean, because you’re using it like? And if you’re not really not sure about, if somebody gave me heroin and said ‘oh it’s 80 per cent’, I think I’d smoke a bit before I did inject it like, you know what I mean? Just to try like.” (OD8)*

Other participants insist on using drugs around trust worthy peers who have been on naloxone training courses. One participant stated that if the people around him are not qualified in harm reduction courses, the participant would use a smaller amount to ensure less of a risk of overdose.

*“I don’t inject on my own, I’ve always got somebody around me ... I know I don’t take the amounts that I used to take like... most of the people I hang around with we’ve all done the naloxone courses together, and if I’ve got somebody around me that knows what they’re doing. And if, if somebody that doesn’t really know about much and that, then I won’t even take the amounts, like I’ll just take enough to make me feel better and that’s it like.” (OD9)*

Some participants communicate with others users about how “strong” the drug is before using. Drug taking can be a communal event, and users will often share their feeling and opinions about the drug whilst using. If a drug is strong, users will tell each other to be careful.

*“But it’s mostly word of mouth, really like, you know? Somebody will say, oh, that’s strong. You know, if, if you’re in a circle and you’re all using the same drug normally, you know, so you all know your, your own strengths like. So, you know, somebody might tell you, oh watch that, it’s strong like! (OD8)*

## 10.7 Changes in behaviour after an overdose

The majority of participants stated that overdosing did not affect their drug taking behaviour. Some individuals stated that it happened in the past and they have moved on but still carry on using drugs.

*“I won’t say it affected it really ... I try not to [think about it] really. I try not to, it’s gone now, the past has gone now, so that’s gone.” (OD12)*

The shock of overdosing made some participants stop using drugs, and brought upon a realisation of the consequences of their actions. One participant stated that

he was at risk of losing his family, and as a result the participant stopped using and changed his lifestyle pattern to prevent him using.

*"[Does the thought of going over and not coming back worry you?] Yeah, that's why I've stopped and I don't go out much since that. I've you know, I've realised, you know, what I'm losing and how my family are feeling, things like that, you know. So, I just don't go out, you know, I, I had to get into a different routine basically because I had to, you know. And I'm still doing it now basically. It's hard, every time I wanna go out now, you know, I wanna use, you know." (OD7)*

Some users changed the method to how they administer the drug as a result of overdosing. Intravenous drug users stated that they stopped injecting at home due to the implications upon family life.

*"Well, we didn't have naloxone or nothing like that back in them days. I mean, you know, I was on my own and the kids were in bed and they would have been too young to do the CPR like, and I wouldn't have wanted them to see me like that then anyway, you know? So, yeah, I stopped injecting then [for a short period]." (OD5)*

Others stated that instead of injecting the drug, they would smoke the drug because the experience of overdose was too close to death. However, interestingly one participant stated that if there was a relatively weak batch of drugs circulating, the participant would go back to injecting the drug instead of smoking.

*"I've smoked for a while then because it was a bit too close for comfort; that was. But, you know, eventually, you know, that, that desire to be sedated just takes over and you think, 'well', you know? And plus, um, you know, a particular batch would come around and it's not, not as strong, so you think, 'Oh, I'll start injecting again', you know." (OD3)*

## **10.8 Prevention**

The most common method of prevention stated by participants was based around overdose awareness training. Users stated that there needs to be an increased awareness and accessibility of naloxone training programmes. Naloxone is seen by many users as the most effective way of preventing overdose. Participants stated that it is good to know that if someone happens to overdose, there is someone who has received naloxone training who can attempt to remedy the situation. .

*"It'd be handy for people to know what to do in situations and not feel that they're going to get into trouble, obviously and it should be more, more available to people to do these courses, ... it was only by chance that I got offered it, I went, when I went to a needle exchange and somebody there offered it to me and like I said 'yeah definitely', but they said they'd get in touch with me but they never did and I never, never had the opportunity to do the course like, which is a shame really." (OD9)*

Participants stated that the level of effort by agencies differed from location to location. One user stated that the training in Bridgend had far more effort put into it compared to the training in Swansea.

Participants stated that they felt safer when they used within a group, especially if they have been trained in using naloxone. One participant stated that if you overdose on your own, there is no way of administering naloxone, whereas if you use with another person they have the opportunity to administer naloxone.

*“I think it’s good if you’ve got a partner you do it with ... they do the naloxone injection, but if you’re on your own you can’t do that ... you won’t be able to do it like, you know ... you’re dead to the world if you know what I mean, you’re dead on the floor, a weight like.” (OD10)*

Others stated that in past experiences if someone was not in the room when they had been using, the consequences could have been fatal.

*“If I wasn’t in company, if my girlfriend hadn’t have come in the room, probably I would have gone maybe, you know? So, you should always do it in company, if you ask me like.” (OD8)*

A minority of individuals stated more radical ideas such as legalising drugs to reduce crime, or having injection rooms like they do in Sweden. Interestingly, the user who suggested having injection rooms did not state that it was for harm reduction but rather crime reduction purposes.

*“In Sweden or somewhere like that, and they give you your injection there ... and the crime rate has gone right down there though ... and the crime rate around here is stupid like ... wake up in the morning and the lead could be off your roof like” (OD10)*

## **10.9 Conclusion**

The respondents held different views on what constituted an overdose. Some said that they had not overdosed, but nevertheless had fallen unconscious or had lost time. One described that it was only possible to determine if an overdose had occurred if you would have died without some kind of intervention. It was noted by several respondents that there was a fine line between ‘gouching out’ and overdosing. There seemed to be a general consensus that an overdose was associated with specific symptoms, such as: shallow breathing, blue lips, and being unrousable.

Several respondents thought that the main cause of their most recent overdose was mixing heroin with tranquillisers such as Valium. Some linked their overdose with increased strength of the heroin used. Safety measures were used by the majority of interviewees, such as testing the strength of heroin before using it, always using the same amount, using with someone else, finding a trustworthy dealer, using with people you trust, and judging the physical appearance of the drug. Nevertheless, a

few respondents mentioned continuing to take risks when using heroin, such as: not testing their drugs and ignoring a drop in tolerance (e.g. after prison release).

Most knew people who had gone over many times, but few reported that they had done this themselves. Most believed that they would not overdose again, but some were less optimistic. The majority did not worry about overdosing and saw it as an unavoidable part of injecting heroin. However, others expressed substantial concerns and had taken various kinds of actions to avoid overdosing such as limiting their drug use and testing drugs before use.

When asked about what could be done to stop opiate users overdosing, a wide range of suggestions were made, including: don't mix drugs, better education, better advice and support in needle exchange schemes, testing the purity, using with others, making prescriptions easier to obtain, providing safe injection rooms, more naloxone training, easier access to treatment, offering alternatives to methadone, better border controls on the military to prevent heroin being brought back by soldiers, and legalisation of drugs.

## **Part Four: Discussion and Conclusions**

## 11. Discussion and conclusions

Overall, almost half (47%) of all opiate users said that they had overdosed at least once in their lives and 15 per cent said that they had done so in the last 12 months. The findings are remarkably similar to those derived from the literature review of 14 studies providing estimates on lifetime and/or 12 month prevalence rates of non-fatal overdose.

The main perceived causes of overdose mixing heroin with tranquillisers such as Valium and variations in the strength of the heroin used. The main actions proposed for reducing overdose were: testing the strength of heroin before using it, always using the same amount, using with someone else, finding a trustworthy dealer, using with people you trust, and judging the physical appearance of the drug.

Most knew people who had gone over many times and several users admitted that they had overdosed on more than one occasion. The majority did not worry about overdosing and saw it as an unavoidable part of injecting heroin. However, others expressed substantial concerns and had taken various kinds of actions to avoid overdosing, such as limiting their drug use and testing drugs before use.

When asked about what could be done to stop opiate users overdosing, users recommended avoiding drug mixing, better education, better advice and support in needle exchange schemes, testing the purity, using with others, making prescriptions easier to obtain, providing safe injection rooms, more naloxone training, easier access to treatment, offering alternatives to methadone, better border controls on the military to prevent heroin being brought back by soldiers, and legalisation of drugs.

Naloxone training (and associated access to naloxone) was seen by many participants as effective in preventing fatal overdoses. There was a common view among users that naloxone training programmes and naloxone awareness schemes should be increased. This could be done by broadening the number and type of locations that health information was provided, including: needle exchange programmes, drug agencies, hostels, and job centres. Training might also be broadened to include advice on how to avoid non-fatal overdose. This might include additional information on identifying and responding to variations in tolerance and how to identify the strength (purity) of a drug.

We believe on the basis of the research that there are several actions that could be taken that might reduce non-fatal overdose.

First, naloxone training should attempt to include a broader range of harm-reduction techniques that would encompass non-fatal as well as fatal overdose prevention. These include providing on how to identify their own current tolerance level and how to recognise an overdose (or incipient overdose) in themselves as well as in others.

Second, research has focused to date on opiate users. However, there has recently been an increase in drug-related deaths among users of new psychoactive substances. Attention should also be paid to the less common drugs implicated in

drug overdose such as mephedrone, amphetamines, benzodiazepines and anti-depressants.

Third, attention should be paid to the effects of drug mixing and appropriate advice should be given through advertising campaigns or through naloxone training programmes.

Fourth, the role of alcohol in drug misuse should be investigated more closely and appropriate advice offered on safe levels of use.

Fifth, some attempt should be made to identify the purity of current street heroin and to devise an early warning system that could inform users when purity levels were unusually high.

## **Appendix 1: Quantitative questionnaire survey study materials**

## National Survey of Non-Fatal Overdose

This questionnaire must be completed with **ALL** individuals attending the needle exchange whether they have overdosed or not. Please note that the number of completed questionnaires per agency will be compared with the entries on NEO.

Have you completed a questionnaire for this research in the last 4 weeks?	<input type="radio"/> Yes - Please do not continue <input type="radio"/> No - Please continue
---	--

Gender	<input type="radio"/> Male <input type="radio"/> Female	How old are you?	
--------	---	------------------	--

What is your main drug?	<input checked="" type="checkbox"/> Tick one <input type="radio"/> Heroin <input type="radio"/> Other opiate <input type="radio"/> Other substance ..... <small>Please state</small>	<input type="radio"/> Non user
How long have you been using your main drug?	<input type="text"/> years	

Have you ever overdosed (gone over) even if it was a long time ago?	<input type="radio"/> Yes <input type="radio"/> No
Have you overdosed in the last 12 months?	<input type="radio"/> Yes <input type="radio"/> No If yes, how many times? <input type="text"/>

Thinking about your most recent overdose. At the time that you went over ...	
Were you indoors or outdoors?	<input type="radio"/> Indoors <input type="radio"/> Outdoors
Were you alone or with others?	<input type="radio"/> Alone <input type="radio"/> With others
Did you intend to overdose?	<input type="radio"/> Yes, I intended to overdose <input type="radio"/> No, I did not intend to overdose
Did you worry about overdosing?	<input type="radio"/> Yes, I worried about it <input type="radio"/> No, I did not worry about it
Had you injected a drug?	<input checked="" type="checkbox"/> Tick all that apply <input type="radio"/> Yes - I had injected an opiate <input type="radio"/> Yes - I had injected another drug type ..... <input type="radio"/> No - I had not injected any drug <small>Please state</small>
Had you smoked a drug?	<input checked="" type="checkbox"/> Tick all that apply <input type="radio"/> Yes - I had smoked an opiate <input type="radio"/> Yes - I had smoked another drug type ..... <input type="radio"/> No - I had not smoked any drug <small>Please state</small>

Why do you think you overdosed?	<input checked="" type="checkbox"/> Tick all that apply	<input type="checkbox"/> Drug mixing <input type="checkbox"/> Took too much <input type="checkbox"/> High purity <input type="checkbox"/> Low tolerance <input type="checkbox"/> Other (please state) .....
Which of the following actions were taken at the time of the overdose?	<input checked="" type="checkbox"/> Tick all that apply	<input type="checkbox"/> Ambulance called <input type="checkbox"/> I don't know <input type="checkbox"/> CPR given <input type="checkbox"/> Placed in recovery position <input type="checkbox"/> Given naloxone by paramedic <input type="checkbox"/> Given naloxone by other

# National Overdose Survey: Guidance to Drug Workers

## Introduction

The Welsh Government, in collaboration with the University of Glamorgan, are conducting a national survey to find out the proportion of injecting opiate users who overdose in any year. The aim of the survey is to estimate the national scale of the problem, with the view of taking action if necessary to reduce harm and save people's lives.

The survey will be run during the month of August 2012, beginning Wednesday 1st August and ending on Friday 31st August. During this period, drug workers in all agency needle exchange (NE) programmes will be asked to collect information on client overdose.

## The questionnaire

Information on overdose will be collected using a single-page questionnaire containing a total of eight questions. The most important question is 'Have you overdosed (gone over) in the last three months'. The remaining questions clarify that the client is an injecting opiate user, followed by three questions about the nature of the overdose. It is estimated that the questionnaire will take less than one minute to complete.

## Selection of clients

The main selection criteria are contained in the questionnaire and refer to whether the person is an injecting opiate user. This can be determined either by allowing all clients to complete the questionnaire and removing ineligible cases afterwards (we would do this), or by selecting only those clients who the drug worker knows (from experience or from asking them) is an injecting opiate user. It is not a problem if the client is 'dropping off' or 'picking up', or if the person is 'picking up' for someone else, so long as the person is an injecting opiate user.

## Administration of the questionnaire

Drug workers should ask each client if they would be willing to complete a short questionnaire. The request should include a short (informed consent) statement on who has commissioned the research, how the research findings will be used, and the confidentiality of the client's responses.

A sample phrase might be something like the following:

"Would you mind completing a short questionnaire for a Welsh Government survey on overdosing. It should only take a minute to complete. It's completely confidential; you don't have to put your name anywhere; and it might help in saving lives."

The timing of the request is important. It is likely that the best time to ask will be while the drug worker is dealing with the client's request, rather than after the transaction has been completed.

Once the client agrees, the drug worker should either hand the questionnaire with a pen or pencil to the client, or read out the questions and record the

answers themselves. The choice can be made by asking the clients which they would prefer.

### **Response rates**

A survey response rate is usually defined as the proportion of the total number of eligible people included in a survey who actually complete the questionnaire or are interviewed. It is essential that we get a good response rate for the overdose survey, otherwise the results will be of no use. We know that it will always be impossible to obtain 100 per cent response rate. Surveys that attempt to obtain prevalence estimates are normally found to be acceptable if they can achieve at least a 75 per cent response rate. Below 70 per cent is likely to mean that the findings will not be regarded as authoritative.

In order to be counted as a response, an answer to the single overdose question would be sufficient, as long as the eligibility criteria is also completed (which could be done by the drug worker, if they have sufficient knowledge of the person). The total number of eligible clients will be defined as the total number of clients entered into the NEO database during the period of the survey. It is not necessary, therefore, for the drug worker to count all clients entering the NE. However, it is important that the NEO database is kept up-to-date.

### **How to get a good response rate**

In our experience, the achieved response rate is in part dependent on the social skills of the person requesting participation. There are three important elements in making this request. The client must see the survey as important, worthwhile, and that there are no hidden costs to the client. The drug worker administering the questionnaire plays a vital role in conveying this information.

Important: This message is likely to be conveyed through the client's interpretation of the importance attributed to it by the drug worker. This would be influenced by the client's perception of whether the drug worker seems to care whether the client completes the form or not.

Worthwhile: The main argument here is that the outcome of the survey will be of benefit to somebody. The strongest impression would be created if the client believed that it might be useful to substance misusers generally. This should not be difficult to convey because the Welsh Government is commissioning this research in order to help save lives and reduce the harms of substance misuse.

Hidden costs: The client might have several concerns about whether participation will harm him or her in some way. There might be concerns that the information could be given to others, that participation in the needle exchange scheme might be affected, or future treatment and support might be jeopardised in some way. The main method of alleviating these fears is to demonstrate that the information given is completely confidential and anonymous. The person's identity will not be recorded on the completed form or anywhere else.

## **Ethical issues**

It is important that the research follows accepted ethical guidelines. The main issues concern informed consent and storage of completed questionnaires

Informed consent: We will provide a short statement to be placed in a prominent place (e.g. on the dispensing table) as well as copies that can be given to the participant providing information relevant to informed consent (e.g. a statement of who is commissioning the research, how the results will be used, confidentiality of the respondents etc.). We will arrange for the statement to be printed on laminated cards (A4 size) suitable to for handling and being left on a table in the NE. A futher set will be on normal printing paper for the clients to take away if they wish.

Information pack: It is usually good practice to be ready to respond to client's concerns that might arise as a result of thinking about the issues raised in the questionnaire (such as, where to obtain advice on overdosing or how to obtain naloxone). We would normally provide an information pack for the client should they wish guidance or support. We are happy to discuss with agencies if they would like us to provide this information of whether they would prefer to supply their own information pack, or to give their own experienced advice as required.

## **Storage of the blank and completed questionnaires**

We will provide the agencies with sufficient copies of the single sheet questionnaires to cover the period of the survey. These should be left on a table in the NE close to where the transactions take place. These are A4 sized, so the lid of an A4 pack of copying paper would be ideal for storing them.

The completed questionnaires (while anonymous) should be treated as confidential and placed in a suitable box so that the top questionnaire could not be read by other clients. Again, the lid of the box of an A4 pack of copying paper would be fine for this purpose. Completed forms should be removed from the consulting area of the NE at least at the end of everyday and stored in a secure place while awaiting collection.

\*\*\*Thank you for helping with the research\*\*\*

## **National Overdose Survey (Laminated desk card)**

In collaboration with Welsh Government, researchers from the University of Glamorgan are conducting a national survey to find out how many injecting opiate users overdose.

Our aim is to use this information to help reduce harms and save people's lives. We are asking all needle exchange clients if they had experienced an overdose in the last 3 months.

Taking part in the survey is voluntary and will not affect the services that you receive from the agency.

The survey is anonymous (we do not require your name) and confidential (the completed questionnaires will be stored securely and read solely by the research team).

If you would like to talk to anyone about personal issues relating to drug overdose, then please ask the drug worker to advise you on who you can speak to.

If you have any questions about the research please direct them to us through the drug worker.

## **Appendix 2: Qualitative interview survey study materials**

## **Request to be Interviewed Card**

In collaboration with the Welsh Government, researchers from the University of Glamorgan are conducting a national survey to find out how many injecting opiate users overdose.

We are asking all needle exchange clients who completed the questionnaire if they would be willing to be interviewed by telephone. This would be just a short call (no more than 10 minutes) on your mobile phone to ask you about your experience of overdosing.

Yes, please call me on telephone number:

.....

\*\*\*Thanks very much\*\*\*  
\*\*\*We will be in touch shortly\*\*\*

**Qualitative interview  
Non-fatal overdose study**

You recently took part in the national survey of non-fatal overdoses and indicated that you would be happy to take part in a telephone interview about your experiences. Thank you! Are you still willing to do this? Do you have time now - it should only take about 10 minutes? To save me writing down everything, would you mind if I recorded the interview (anonymity)?

**Background**

Sex:

Age:

What is your primary drug of choice?

How long have you been using this drug?

Do you inject?

**Overdosing**

As you know, this interview is all about 'going over'. Have you ever 'gone over'?

**If yes**, how many times have you gone over? When was the last time?

How do you know that you have actually 'gone over'? In what way is going over different to gauching out?

**If no**, have you ever lost consciousness after taking heroin or other opiates? How many times have you done this? When was the last time?

Does the thought of going over and not coming back worry you?

Do you ever take any steps to stop yourself from going over? (how often, what are they, why?)

**Narrative**

Can you think back to the last time that you went over (or lost consciousness) and talk me through what happened.

What was going on in your life at that time? (mood, health, work, family, relationships, crime, drug use)

What happened immediately prior to the event? (how were you feeling, who were you with, where were you, when was this, what had you taken, how much had you taken, any precautions)

Do you know what happened during the event? (CPR, life-saving actions, THN, ambulance, police, hospital, other)

What happened immediately after? (where did you come round, what happened next)

Why do you think you went over? (any differences to normal, dose, purity, mode of use)

Why do you think you survived? (naloxone, CPR, being with others)

### **Impact of the overdose**

How do you feel about what happened during the event?

Did the event affect your drug use in any way? (short term, long term)

Do you think that you will go over again? If yes, does this worry you?

You said earlier that you had gone over before, what do you think about going over and over and over again?

### **Prevention**

At that time, do you think that something could have been done to stop you from going over?

What do you think we can do to stop other people from going over?

Thank you for taking part in this interview. Your responses are extremely valuable and important to us.

If you feel concerned or worried about anything please contact your local drug agency, call DAN 24/7 (0808 808 2234 or text DAN to 81066) or contact the Samaritans (08457 90 90 90).

## **National Overdose Survey**

### **Ethical statement and request for ethical approval**

Statement prepared following consultation and discussion with the FBS Faculty Ethics Champion.

Submitted by: Trevor Bennett  
Katy Holloway

Date: 20<sup>th</sup> August 2012

The Centre for Criminology is about to launch a Welsh Government funded national survey to estimate the proportion of injecting heroin users in Wales who overdose in any year. This will be done by sampling all agency-based, needle-exchange (NE) programmes and asking the drug workers to ask all clients entering the NE during a one month period to complete a short questionnaire (see attached). We are also funded to include a qualitative component to the survey which involves asking respondents if they would be willing to conduct a short telephone interview about their overdose experiences (see attached). The survey will be launched on September 1st and will run for one month.

The principal researchers (Trevor Bennett and Katy Holloway) contacted the FBS Ethics Champion in July 2012 to discuss the procedures for obtaining ethical approval. We were asked to provide an ethical statement (this document) which presented the issues involved and which explained how these would be tackled. The main ethical issues are described below, along with our proposed response. In our view, in line with the Faculty's framework for considering ethical responsibilities, the ethical issues should be classified as 'not straightforward, but unproblematic'.

#### 1. Informed consent

The respondents need to have sufficient information about who we are, why we are conducting the survey, and what we will do with the results in order to make an informed choice to consent. We will provide a short statement to be placed in a prominent place (e.g. on the dispensing table) as well as copies that can be given to the participant providing information relevant to informed consent (e.g. a statement about who is commissioning the research, how the results will be used, confidentiality of the respondents etc.). A summary of the statement will be included at the beginning of the questionnaire and will be repeated at the start of the interviews.

#### 2. Confidentiality

The completed questionnaires will need to be kept out-of-sight during the collection period and stored securely at the end of each day and at other times when not being used. The completed questionnaires (while anonymous) should be treated as confidential and placed in a suitable box so that they cannot be seen by other clients. Completed forms will be removed from the consulting area of the NE at least at the end of each day and stored in a secure place while awaiting collection. The forms

will be more permanently stored at the University in a locked cabinet in a lockable room and will only be read by the research team.

### 3. Anonymity

The survey would be anonymous in the sense that the person completing the questionnaire would not be asked to reveal his or her name or provide any other identifying information. The telephone interviews would require the person leaving his or her mobile phone number should he or she wish to be interviewed. We are happy to accept pseudonyms or personal names; whichever the respondent prefers.

### 4. Whether the respondent is harmed by the research

The survey will take place in a drug agency which would provide support and advice if the respondent was disturbed by the experience. We will also provide information on where to obtain help relating to drug misuse or overdose (including information on the naloxone [overdose-related] scheme). The telephone interview would also include giving information on the main sources of support and contacts for the naloxone scheme.

### 5. Issues relating to personal safety of the researchers

The questionnaires will be administered by the drug workers within the context of a drug agency. The interviews will be conducted by telephone. The research staff will not be involved directly in data collection.

### 6. Issues relating to the effect of the survey on the person's treatment experience

Respondents will be told by the drug worker that the research has nothing to do with them as individuals or their support from the needle exchange. Potential respondents will be asked if they are willing to take part in the research and their refusal will be accepted without question.

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Office Use:

Read and Approved as discharging ethical responsibilities in line with the ethics framework of the Faculty of Business and Society, the University of Glamorgan and other relevant documentation.



Signed:

FBS Faculty Ethics Champion

Date:

20<sup>th</sup> August, 2012

### **Appendix 3: Pilot Study**

Approximately 6 months before the main questionnaire and interview surveys were conducted, we launched a pilot study which had the primary purpose of testing the procedures to be adopted and the effectiveness of the research instruments. The pilot study was conducted over a four-week period from 3<sup>rd</sup> September to 28<sup>th</sup> September 2012.

As a result of the pilot study the questionnaire was substantially changed and the procedures to conducting the research and monitoring the completion and return of questionnaires was improved. However, during the survey, we obtained the contact names and telephone number of almost 50 injecting drug users who were willing to be interviewed. Hence, during the period of the main survey we contacted and interviewed respondents who gave their names and telephone numbers in the pilot survey. The results of these interviews are presented in this report.

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